REMARKS

Claims 1-26 are currently active.

The Examiner has found Claims 4, 6, 10-13, 17, 19 and 23-26 allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Examiner has rejected Claims 1 and 14 as being anticipated by Moir.

Referring to Moir, there is disclosed a method and system to implement policy-based network traffic management. Moir teaches it has become desirable to offer varying levels of service to various a network entities. Moir teaches a system to implement policy-based network traffic management. Moir teaches that a virtual machine 10 has been hosted on a network connection device 12. The virtual machine 10 includes a classifier 14 that classifies incoming network traffic 16 in accordance with a set of classification rules 18 provided by a network owner. Each packet within the incoming network traffic 16 is classified by the classifier 14 into one of several flow classes 20 and flow instances 22 by the classification rules 18. See column 2, paragraph 28.

The virtual machine 10 is shown to receive network traffic from a number of network connections via a number of ingress virtual interfaces 24, and to output classified network traffic via a number of egress virtual interfaces 26 to ATM network connections. The virtual interfaces 24 and 26 may constitute a physical port and/or a virtual channel. Network traffic entering one of the ingress virtual interfaces 24 is operationally classified by the virtual machine 10 utilizing the classification rules 18. A packet, frame or cell is then routed, switched or bridged to an appropriate egress virtual interface 26, as defined by the classification rules 18. See paragraph 29.

The virtual machine 10 includes both the classifier 14 and the labeler 15. The classifier 14 operates to classify packets into one of several flow classes' and flow instances. The classifier 14 extracts from each packet a signature, which is then parsed into two distinct fields, the flow class discriminator which defines the class of a flow to which the packet belongs, and a flow instance discriminator which identifies to which instance of the flow class the packet belongs. In general, the flow class is utilized to specify transmission control, while the flow instance is utilized to specify admission control. See paragraph 31.

Moir teaches three discrete rules-based processes that may be implemented autonomously. The first rules-based process is a classification process performed by the classifier 14. The event management rules 17 and label management rules 19 are configured

utilizing compiled virtual machine rules. A compiled event management rule 17 is associated with significant events and the life cycle of a flow class 20. See paragraph 32.

Event management rules 17 may be utilized to tailor fine-grain behavior of the network connection device 12 and support the emission control policies, and to implement appropriate behavior in response to resource management protocols. The label management rules 19 are utilized by the labeler 15 to invoke, and respond to peer-peer label and exchange protocols. This allows a dynamic bonding of label spaces to occur between adjacent network devices. See paragraph 33.

The signature 31 is specified by the classification rules 18 and may comprise any combination of fields and/or data within the packet 29. The signature 31 is utilized as a tag to perform a lookup within the policy table 30 to located a policy for handling of the relevant packet 29. The policy may specify various service parameters 32. The service parameters 32 relate to ATM traffic management and are provided to an ATM traffic management module 34 which applies the service parameters 32 to various flows outputted via one or more egress virtual interfaces 26. See paragraph 34.

The signature 31 of a packet 29 is utilized by the classifier 14 to differentiate the packet 29 from other dissimilar packets. Sequences of packets bearing in the same

signature are termed flows. The flow is said to be instantiated when the classifier 14 recognizes a packet 29 bearing the flow signature, and persists until the amount of time between packets 29 bearing the flow signature exceeds a particular amount of time. See paragraph 35.

The virtual machine 10 does not impose any structure on a signature 31 or a packet 29. The classifier 14 operates to determine the signature 31 of the packets 29 by evaluating the classification rules 18. An egress virtual interface 24 may also be considered an implicit part of a packet signature 31. The classifier 14 is configured by making association between tags and their corresponding policies and the policy table 30. Each entry within the policy table 30 is a set of data items, amongst which are specified the fields of the packet signatures 31 to be utilized for classification. Each field may be given a value and a mask. Upon receipt of a packet 29, a classifier 14 searches the policy table 30 for entry that matches the signature 31 of the packet 29. To locate such a match, the classifier 14 first masks the packet signature 31 with a FCD mask, and then compares it to the FCD value. If the match is successful, the packet 29 is processed as a member of a corresponding flow class. Once a packet 29 has been classified as a particular flow class, it is processed according to this specification in the flow class table 36.

Moir teaches a virtual interface is a logical description of a physical interface, which hides the details of any underlying multiplexing. When the virtual machine 10 switches a packet to an egress virtual interface 26, the flow class to which the relevant packet belongs provides a transmit code point which specifies the transmission requirements of the relevant flow class. Each virtual interface is created to support a specific network topology, and to specify how to map a packet to and from the external network. Each virtual interface includes configurations to set the type of underlying physical interface assigned a driver instance, assign the label space of a physical layer that the virtual interface can use, set the type of virtual interface, enable disabled DHCP, assign a MAC address, assign an IP address and subnet mask, enable and disable IP multicasting, enable and disable broadcasting to other virtual interfaces of a particular type, enable and disable network address translation, and enable and disable spanning tree and set state priority and cost. In addition, a virtual interface contains the following information: received unicast bites and packets, received multicast bytes and packets, received broadcast bytes and packets, receiver discarded bytes and packets, transmitted bytes and packets, and transmitter discarded bytes and packets. See paragraphs 47 and 48.

From the above, it is clear that Moir fails to teach or suggest a "a virtual interface subsystem operative to couple the virtual router subsystem to the physical interfaces, the virtual interface subsystem including a plurality of virtual interfaces, the virtual interfaces

being organized into link sets, each link set during operative to associate a generic interface identifier of a given virtual router with a corresponding physical interface coupled to a network link connecting the network device to another network device serving a same VPRN". Accordingly, Claim 1 and Claim 14 and not anticipated by Moir.

The Examiner has rejected Claims 2 and 15 as being unpatentable over Moir in view of Li. Applicants respectfully traverse this rejection.

Referring to Li, there is disclosed information access system and method. Li teaches an information access system and method to organize a network and service system reflecting the logical structure of information resources, and entry points to those sources. The system and method allows users to take advantage of knowledge of the information structure to obtain better services more conveniently and consistently, and allows service providers to offer a richer set of service in a more cost-effective way. See column 1, lines 50-56.

Li teaches the structuring and placement of information and information carousels in local server 50 is under the control of network access node 30. The most distant sources are remote servers 20. The placement and control of remote servers 20 is autonomous, like the World Wide Web, into which the system can connect for information

supplied from that category. However, the presentation of information of all three types of information content to the client is under the network access systems' overall control. Content in remote servers 20 is accessed through the internet 160. Access node 30 itself contains information carrousel for server 40, local server 50 and a gateway 60 for connectivity with remote servers including the rest of the Internet. Access node 30 also contains a communication server 30 for multiplexing, scheduling, and inserting information content from remote servers, local servers, and information carousel servers 40 for delivery to information clients 100. The communication server 70 is responsible for the allocation of access network bandwidth among different information sources, and communicating that allocation to the information clients 100. Communication servers 70 carry cell multiplexing, scheduling and control so that content residing in access node 30 can be accessed with a certain guarantee of rates of service. Remote servers 20, a local server 50, and information carousels server 40 cooperate in information access node 30 to offer an information client 100 the unified interface to access content at different levels of the information hierarchy, with discriminating levels of grades of service.

Communication server 70 is connected to a single broadband access medium that can be further partitioned into multiple physical channels 80. These channels can be multiple rf channels over a coaxial cable, or radio links for multiple physical channels of different transmission media. Communication server 70 receives information content from

each of information carousel servers 40, local content servers 50, and remote servers 23 associated communication links. According to the types of information content of the attributes of a physical channels 80, the communications service 70 delivers the information content across physical channels 80 to the intended information client 100, at the desired grades of service and service times requested by the client. See column 3.

It is respectfully submitted that Moir and Li have nothing to do with each other and no one skilled in the art would ever look to Li and its teachings to combine them with Moir to arrive at applicants' invention of Claim 1. It is clear from the above description that Li is an architecture whose entire focus revolves around the World Wide Web and the Internet. In contrast, Moir specifically teaches a specific device whose architecture is limited to what is occurring inside that device. Taking the teachings regarding the Internet and the components distributed throughout it is completely inapplicable to apply to a specific internal architecture of a switch.

It is black letter patent law that teachings cannot be taken out of the context in which they are found. The teachings that the Examiner is relying upon from Li in regard to how virtual channels can be mapped into physical channels is only explained and enabled in regard to how it is applied to the worldwide web and specifically the system and method

taught by Li. This context has nothing to do with the specific internal teachings of a switch as taught by Moir.

These different contexts in which the respective teachings are found cannot be ignored. It is respectfully submitted the Examiner is using hindsight to arrive at applicants' invention of Claim 1. The Examiner is using the limitations of Claim 1 as a road map to find the different limitations in different references, and having found them, concluding that applicants' invention of Claim 1 is arrived at. Hindsight is not patent law.

Furthermore, there must be some teaching or suggestion in the references themselves to combine the teachings the Examiner relies upon, and here, there is none. As explained above, the different contexts preclude the possibility of such a teaching.

Lastly, the references cannot be combined because it will require undue experimentation, development and design work to somehow or other take the teachings the Examiner is relying upon regarding how virtual channels can be mapped into physical channels from Li and somehow or other modify the switch of Moir so it would be operational with the teachings of Li. Applicants are unsure how this would be done. Accordingly, Claim 1 and Claim 14 are patentable over the applied art of record. Claims 2 and 15 are dependent to

Claims 1 and 14, respectively, and are patentable for the reasons Claims 1 and 14, respectively, are patentable.

The Examiner has rejected Claims 3 and 16 as being unpatentable over Moir in view of Chen. Applicants respectfully traverse this rejection. Chen in relevant part does not add anything to the teachings of Moir to arrive at Claims 2 and 15, let alone Claims 1 and 14, from which Claims 3 and 16, respectively, depend. Accordingly, Claims 3 and 16 are patentable over Moir in view of Chen.

The Examiner has rejected Claims 5; 7-9, 18 and 20-22 as being unpatentable over Moir in view of Cisco. Applicants respectfully traverse this rejection. Cisco, in relevant part, does not add anything to the teachings of Moir to arrive at Claims 1 and 14, let alone Claims 2 and 15, from which Claims 5, 7-9; 18 and 20-22, respectively, depend. Accordingly, Claims 5, 7-9, 18 and 20-22 are patentable over Moir in view of Cisco.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 1-26, now in this application be allowed.

Respectfully submitted,

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